

Q1
end
between the light transmitting support and the diffusing layer. Wherein the thermal ablative layer which contains a light absorptive thermal ablative material, in an area which is illuminated by a nearly collimated light incident from a side of the diffusing layer, is removed by thermal energy by means of the nearly collimated light.

Page 8, first full paragraph:

Q2
It is also preferable that a surface of a side opposite to the diffusing layer in the light transmitting support is treated with light non-reflection processing.

Pages 22-23, bridging paragraph:

Q3
The light diffusing plate 16b shown in FIG. 2B has the light-sensitive material layer which is colored black, for example. The light-sensitive thermal developing material layer (hereinafter referred to simply as "color forming material layer") 24, on which the beads 20 are fixed, forms no color in the areas (passing areas) through which the light refracted by the beads 20 passes.

Pages 23-24, bridging paragraph:

Q4
contd
The light-sensitive material which is a positive color forming material and which forms the color forming material layer (light-sensitive thermal developing material layer which is light-sensitive material layer), for example, is a material which forms no color in the exposed area

a4
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even if developed, and upon exposure. The color forming material is then developed by heat or chemical reaction effected by heating to form a color in the non-exposed area that becomes a light shielding area (light non-passing area) and no color in the exposed area that becomes a light transmitting area (light passing area).

Page 25, fourth full paragraph:

a5
Secondly, the beads 20 are fixed on the color forming material layer 24. For example, a paint which is the binder 25 dispersed with the beads 20 is applied thereon, or, after the binder 25 is applied. Then the beads 20 are sprinkled on its entire surface; the binder 25 is dried; and the beads 20 are fixed. In this case, before the beads 20 are fixed, the beads 20 on the binder 25 may be forced to contact the color forming material layer 24 by pressing down or precipitating them in the same manner as in the previous example.

Pages 25-26, bridging paragraph:

a6
contd
Once the beads 20 have been fixed, the collimated light from the side of beads 20, preferably the similar collimated light as that emitted from the backlight unit 14, is incident on them. In doing such, the light incident on the beads 20 is refracted and (together with the light not incident on the beads 20) incident on the color forming material layer 24 to expose the incident areas. Namely, only the incident areas which the light passes through in the color forming material layer 24 are exposed and become light passing areas in which no color is

Ab and
formed even after development. It should be noted that the area other than the light passing areas constituting the light non-passing (shielding) area is not exposed, because the light launched into the beads 20 converges on the light passing areas by the beads 20, so that the color forming material layer 24 in the light passing areas can be exposed, but the light launched into the light non-passing area is not converged by the beads 20 so that the color forming material layer 24 in the light non-passing area can not be exposed sufficiently.

Page 32, second full paragraph:

a7
Then, by developing the color forming material layer 24 by the heat or the chemical reaction effected by heating, only the unexposed area forms a color in a high density to be a light non-passing area whereas the exposed areas forms no color to be light passing areas. In doing such, as shown in FIG. 3B, the diffusing plate 16d having the color forming material layer 24, forms a high density color and functions as a blackmask.

Page 33, first full paragraph:

a8
As shown in FIG. 3C, by using the thus produced diffusing plate 16d, the light bearing the image that passes through the liquid crystal panel 12 is refracted in the beads 20 and is sufficiently diffused while the color forming material layer 24, functioning as the blackmask, absorbs the extraneous light from the side of the support sheet 18 (viewer) in a substantial manner.

Page 33, second full paragraph:

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Moreover, as shown in FIG. 4B, when the diffusion plate 16e is produced, firstly, the color forming material layer 24 comprising a light-sensitive material, which forms a high density color in the visible light range after being developed by a heat or chemical reaction, is formed on the transparent support sheet 18. Then beads 20 are bonded on the thus formed layer using a resin having a medium density, in its light-sensitive wavelength, as a binder 30 to be fixed thereon.

Pages 33-34, bridging paragraph:

010
Thereafter, as shown in FIG. 4A, when the collimated light, as exposure light, is incident from the side of the beads 20, the light which is incident into the beads 20 is refracted and is then incident on areas between bottom portions of the beads 20 and the color forming material layer 24, contact areas therebetween or areas of thin portions of the binder 30 adjacent to the contact areas. Though the color forming material layer 24 in these areas has a medium density, it is thin so that the exposure light passes therethrough to sufficiently expose the color forming material layer 24 in the areas. At this time, the exposure light is also incident on the binder 30 in the area spaced among adjacent beads 20; however, since the binder 30 in this area is thick, the color forming material layer 24 thereunder is not sufficiently exposed so that it remains as an unexposed area.

Page 34, first full paragraph:

a11
Then, by developing the color forming material layer 24 by the heat or the chemical reaction effected by heating, only the unexposed area forms a color in a high density that is a light non-passing area, whereas the exposed areas form no color such that it is a light passing area. In doing such, as shown in FIG. 4B, the color forming material layer 24 that forms color in a high density functions as a blackmask.

Page 34, second full paragraph:

a12
As shown in FIG. 4C, by using the thus produced diffusion plate 16e, the light bearing the image which passes through the liquid crystal panel 12 is refracted in the beads 20 and is sufficiently diffused while the color forming material layer 24, functioning as the blackmask, absorbs an extraneous light from the side of the support sheet 18 (viewer) in a substantial manner.

Page 35, first full paragraph:

a13
contd
Namely, as shown in FIG. 5A, the layer 32 to contact the beads 20 is formed on the support sheet 18, for example, by applying the binder 22 as shown in FIG. 2A or the color forming material layer 24 as shown in FIG. 3A; then, as shown in 5B, the beads 20 are sprinkled on the entire surface of the thus formed contact layer 32. This is succeeded by pressing down or

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precipitating the beads 20 on the contact layer 32, as shown in 5C, the beads 20 are forced to contact the support sheet 18.

Page 36, second full paragraph:

A14
The image display apparatus 40 shown in FIG. 6 is a so-called liquid crystal display (LCD) which utilizes the liquid crystal panel 12 as a display device of an image. The image display apparatus 40 comprises the liquid crystal panel 12, the backlight unit 14a which allows light to be incident on the liquid crystal panel 12, the light diffusing plate 16f which is applied on the surface of the liquid crystal panel 12 and diffuses the light that passes through the liquid crystal panel 12 and an extraneous light scattering preventing sheet 42 applied thereon. To the liquid crystal panel 12, a color filter (not shown) having a matrix structure is provided; and a drive (not shown) which drives the liquid crystal panel 12 is connected. Optionally provided to the image display apparatus 40 are various members which a known LCD has.

Page 38, third full paragraph:

A15
cont'd
The extraneous light scattering preventing sheet (hereinafter referred to simply as "preventing sheet") 42 which absorbs light and prevents the extraneous light from being scattered by decreasing light transmissivity is not limited to any particular way but is preferably treated with AR processing on its surface 42a. As the preventing sheet 42, for example, a visual

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end display terminal (VDT) filter mounted on a monitor of a personal computer or the like is preferably used.

Pages 38-39, bridging paragraph:

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Take, for example, that the light transmissivity of the preventing sheet 42 is 30%, as shown by an arrow A in FIG. 8. If light passes through the preventing sheet 42 once, only 30% of an incident light (100%) passes therethrough. On the other hand, as shown by an arrow B in FIG. 8, if light is incident on the preventing sheet 42 from outside, is reflected at the beads 20 of the light diffusing plate 16f and goes out by passing through the preventing sheet 42 again, since the light passes the preventing sheet 42 twice, its transmissivity is 30% of 30%, namely, 9% ($0.3 \times 0.3 = 0.09$). Therefore, the light transmissivity of the reflected light of the extraneous light is decreased by a square of the transmissivity of the preventing sheet 42, which is extremely small and thereby effectively prevents the extraneous light from being scattered.

Page 39, second full paragraph:

917
In this case, by applying the preventing sheet 42 on the light diffusing plate 16f, the extraneous light that is scattered by the beads 20 of the light diffusing plate 16f, which will cause a decrease of contrast is prevented. As a result, depixelization can be attained without decreasing contrast, for example, when applied to a medical use, a smooth, natural image appropriate for diagnosis can be displayed on the image display apparatus.

Pages 39-40, bridging paragraph:

218
As described above, the extraneous light scattering preventing sheet intentionally decreases its transmissivity to reduce the influence of the extraneous light up to a square of its transmissivity so that it functions like a face-plate of CRT. Without applying the extraneous light scattering preventing sheet on the light diffusing plate, the support sheet of the light diffusing plate may have the function of the extraneous light scattering preventing sheet. In this case, the support sheet may be prepared so as to have the light transmissivity of, for example, about 30%.

Pages 40-41, bridging paragraph:

219
The display apparatus of the second aspect of the present invention using such light diffusing plate of the first aspect of the present invention has an excellent light diffusing property and a preferable contrast ratio over a wide viewing angle by decreasing the reflection of the extraneous light and, as a result, is a liquid crystal display that is advantageously applicable for medical purposes.